

FLORA OF WEST GIPPSLAND

By J. H. WILLIS*

GENERAL AND SPECIAL FEATURES

The number of vascular plants indigenous to West Gippsland (as defined for the Symposium) is approximately 1,100 species, i.e. about 400 less than the figure for East Gippsland. Such a striking difference cannot be ascribed to any lack of diversity, either in altitude, soil or climate, in this western sector which is actually bounded by a longer, more indented coastline than in the East, and which includes an equally wide range of land forms—from coastal plain to subalpine plateau at 5,000 ft. One obvious reason is the absence of 'jungle pockets' (scattered outliers of subtropical rain-forest that reach into far eastern Victoria from their more continuous development along the coasts of New South Wales). Thus, some 200 species of flowering plants and ferns do not extend west of Bairnsdale. A further group of dry-land species, occurring in the rain-shadow belt of the upper Snowy and Deddick River hills, finds no parallel environment in other parts of Gippsland. Another cogent reason for the relative poverty of native plants over much of West Gippsland is the proportionally large area cleared to agriculture and urban development; for instance, the once-extensive heathlands and swamps between Port Phillip and Western Port Bays have now all but disappeared before the demands of housing, industrialization and small farming.

The principal plant communities can be grouped under four geographical categories: Coastal Plains, South Gippsland Highlands, West Gippsland Plains and Main Eastern Highlands (north to the Dividing Range).

1. COASTAL PLAINS: Hereunder are to be included littoral and sand-dune communities, sea-cliff vegetation, salt-marsh and mangrove formations, tea-tree swamps, heaths, some grassland and eucalypt woodland—a very mixed assemblage indeed.

2. SOUTH GIPPSLAND HIGHLANDS (to 2,500 ft, including Wilsons Promontory): These support both dry and wet sclerophyll forests, with ferns

and other shade-loving plants well represented in the shelter of humid valleys.

3. WEST GIPPSLAND PLAINS: Heaths, swamp and riparian communities, and some tussock grassland are present.

4. MAIN EASTERN HIGHLANDS (to 5,000 ft): Very similar vegetation to the South Gippsland Highlands, but including higher montane forest and culminating in a subalpine complex at the Baw Baws where snow lies continuously for weeks during winter and early spring.

Mountain Ash forests of W. and S. Gippsland produced the tallest eucalypts on record—one tree of *Eucalyptus regnans* measured by licensed surveyor at Thorpdale in 1880 was 375 ft and another near Noojee gave a reading of 326 ft in 1888. Such giants have long since vanished.

The great deposits of brown coal in the Latrobe Valley are largely of Oligocene age and are rich in vegetable fossils. These have been the subject of numerous papers by palaeontologist Dr. Isabel C. Cookson (and sundry collaborators) to this Society's *Proceedings*, also to the *Proceedings of the Linnean Society of N.S.W.*, *Australian Journal of Botany* and *Australian Journal of Scientific Research*, during the past two decades.

Most of the 1,100 vascular plants known to inhabit West Gippsland are present also throughout the more southern highland areas or along the coasts of the State, but at least 23 species are restricted in Victoria to this more circumscribed region, nine of these being endemic here and two others almost confined to West Gippsland. The names of the restricted species (with endemics indicated *) are as follow:

Lindsaya cuneata (Wilson's Prom.)

Adiantum diaphanum (Lang Lang R.)

Galnia grandis (Tomahawk Ck, Beenak)

**Carex alsophila* (Upper Yarra R. watershed)

**Astelia australiana* (Bunyip-Latrobe watershed)

**Thelymitra murdochae* (Wonthaggi-Inverloch region)

**Microtis holmesii* (Moe district)

* National Herbarium of Victoria, Birdwood Avenue, South Yarra, 3141, Australia.

- **Prasophyllum colemanae* (Bayswater)
- **Pterostylis crypta* (Waratah Bay)
- Pterostylis fischii* (Woodside & Traralgon districts)
- Australina pusilla* (Wilson's Prom.)
- **Persoonia arborea* (Yarra, Thomson, Latrobe and Bunyip R. watersheds)
- Grevillea barklyana* (E. tributaries of Bunyip R.)
- Lepidium praetervisum* (Wilson's Prom.)
- Lepidium halmaturinum* (Wilson's Prom.)
- **Tetradlea stenocarpa* (Yarra, Latrobe & Bunyip R. watersheds)
- **Acacia howittii* (Tarra Valley)
- Oxalis lactea* (Baw Baw region mainly)
- Pimelea drupacea* (Wilson's Prom.)
- Actinotus bellidioides* (Baw Baw)
- Cyathodes juniperina* (Wilson's Prom. & Phillip Is.)
- Euphrasia gibbsiae* (Baw Baws)
- Coprosma moorei* (Baw Baws & Lake Mtn.)

Some 30 other species of characteristically East Gippsland plants spill over into the coastal tracts of the West, some as far as Wilson's Promontory and a few reaching almost to Port Phillip, e.g. *Dianella caerulea*, *Acacia botrycephala* and *Eucalyptus globoidea*.

Wilson's Promontory and the Baw Baws (both granite) are two areas of particular interest that have been well worked over by botanical collectors. The Promontory has an astonishingly rich flora, embracing at least 665 indigenous vascular species, 90 mosses and hundreds of the higher fungi. Five species of the Promontory's vascular plants are not known to occur anywhere else in the State (although present in Tasmania), viz. *Lindsaya cuneata*, *Australina pusilla*, *Lepidium praetervisum*, *L. halmaturinum* and *Pimelea drupacea*. The endemic daisy-bush, *Olearia alleuderae* is confined to swamps in a few near-coastal heaths of East Gippsland, and to its type locality—along the Vereker Range track on Wilson's Promontory.

Within the subalpine zone (above 4,500 ft) 142 species are to be found on the Baw Baw Plateau, 42 of them confined to springs, bogs and moss-beds. Three Baw Baw species (*Actinotus bellidioides*, *Euphrasia gibbsiae* and blue-fruited *Coprosma moorei*) are isolated outliers from the Tasmanian highlands and do not extend to any other part of Victoria. There is a close floristic affinity between the rather circumscribed Baw Baws and mountains in western Tasmania.

Two plants of outstanding interest are a large tufted lily, *Astelia australiana* which may grow 6 ft tall in sheltered boggy gully-heads, and a unique member of the epacrid family, *Wittsteinia vacciniacea* that trails among mossy boulders and around the butts of old beech trees (*Nothofagus cunninghamii*). Both are endemic in the mountainous watershed of the Yarra, Bunyip and Latrobe Rivers between Mts. Donna Buang and

Erica. The writer discovered this *Astelia* in 1929; it is a spectacular plant, especially when in orange berry about Easter-time, and its closest congeners are 1,100 miles away in New Zealand. The *Wittsteinia*, first collected by Baron von Mueller on the Baw Baws, Christmas 1860, is one of only two genera of vascular plants endemic to Victoria. It is a most intriguing plant, forming a connecting link between the predominantly old-world family *Ericaceae* and the Australasian *Epacridaceae* under which most systematists now place it. The eminent plant geographer, Leon Croizat was so impressed by the isolated taxonomic position of *W. vacciniacea* that he wrote (1952): 'hundreds of other species... have no value to compare with this single one'. In addition to the main strongholds at Donna Buang, Lake Mountain and the Baw Baws, there is a small isolated occurrence of *Wittsteinia* in the King River Valley near Mt. Cobbler.

BOTANICAL COLLECTORS AND INVESTIGATORS

British botanist George Caley would seem to have been the first collector in the West Gippsland region. Sailing with Lt. James Grant on the *Lady Nelson*, he spent a week in Western Port Bay late in April 1801, but he was not enthusiastic about the flora and gathered few specimens. The Frenchman, M. Leschenault de la Tour, with Captain Emmanuel Hamelin's party on *Le Naturaliste*, arrived a year later. After a brief sojourn at Western Port Bay early in April 1802, Leschenault remarked: 'the number of plants which I gathered here is not great'. Presumably this botanical material is with Leschenault's main collection in the Paris Herbarium.

Sir Paul Edmund de Strzelecki, on his way from Mt. Kosciuszko to Western Port Bay in the autumn of 1840, made natural history collections along the route. Exhausted and almost starving, his party was forced to abandon the horses and all natural history specimens near Boolarra (on the Morwell River) about April 21. They managed to reach Western Port alive 22 days later. After recuperation in Melbourne, Strzelecki left for exploratory work in Tasmania, while his assistant James Riley and resourceful aboriginal guide Charley Tarra are reported to have returned by an easier route to the Morwell River and retrieved the valuable collection of specimens. What happened to them subsequently is not clear.

By far the most important investigator of West Gippsland's vegetation was Baron von Mueller who, between Jan. 1853 and Oct. 1874, made nine exploratory journeys through this area. He

visited both Wilsons Promontory and Mt. Wellington on three separate occasions, and he thoroughly explored the Baw Baws during a fortnight between Dec. 1860 and Jan. 1861. Many of the trophies became types of new species that were subsequently described by Mueller who, in his *Annual Report* to Parliament in January 1861 (pp. 13-15), gives an account of the Baw Baw vegetation.

Mueller's botanical companion on several excursions was Carl Walter who botanized on numerous occasions between 1867 and 1897 around the Dandenongs and Upper Yarra Valley. David Boyle of Nunawading was also active in the Dandenong Ranges between 1867 and 1872, collecting the type material of *Eucalyptus regnans* (Mountain Ash).

Dr. Alfred W. Howitt collected around Sale and Foster in the 1880s, describing the new species *Eucalyptus muellerana* (Yellow Stringybark) from the latter district. Henry Tisdall, a school teacher at Walhalla, gave special attention to the local fungi from 1881 to 1885, and Miss Mary E. Wise of Sale was an assiduous plant collector at the age of 13, in 1895. Rev. James Wilson collected numerous fungi in the Beaconsfield hills (1922-1924) and submitted his material, including several new species to the American mycologist C. G. Lloyd

(Cincinnati). H. T. Clifford's paper 'On the distribution of the species of *Eucalyptus* in the region of the Dandenong Range, Victoria' appeared in *Proc. Roy. Soc. Vict.* Vol 65: 29-55 (1933).

Many subsequent botanical collectors have combed the Baw Baws, and Wilsons Promontory has been rather intensively worked from 1905 to the present day. Ecological studies are currently being made by teams from the University of Melbourne, several of their research papers having already appeared in this Society's *Proceedings*. In Nov. 1969 the Victorian National Parks Authority published a booklet, *The Ferns and Flowering Plants of Wilsons Promontory National Park*, with a complete list of all known indigenous and introduced species. Probably the leading informant on the distribution of higher plants in the Latrobe Valley is Miss Jean Galbraith of Tyers, via Traralgon, who has written several books on Victorian plant-life for the layman. Much research remains to be done on the flora of West Gippsland, and an exciting prospect for those interested in plant mapping is a complete survey of the State, species by species, on grid rectangles of 10 minutes in longitude and latitude. This work, already begun, is sponsored by the Department of Botany at Monash University in association with the National Herbarium.